



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,902	04/07/2004	H. Thomas Graef	D-1238 R1	8852
28995	7590	06/03/2005	EXAMINER	
RALPH E. JOCKE walker & jocke LPA 231 SOUTH BROADWAY MEDINA, OH 44256			HESS, DANIEL A	
			ART UNIT	PAPER NUMBER
			2876	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PM

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/820,902	GRAEF ET AL.	
	Examiner	Art Unit	
	Daniel A. Hess	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-34 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-13 is/are rejected.
- 7) ☒ Claim(s) 4 and 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2876

### DETAILED ACTION

This action is in response to 4/22/2004 initial filing by applicant.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2876

Claims 1-3 and 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haney et al. (US 6,264,102) in view of Graef et al. (US 5,141,127).

Re claim 1: Limitations of claim 1 are recited below in italics, followed by the prior art teachings corresponding thereto. Especially noteworthy portions of prior art teachings are highlighted in boldface.

*An automated banking machine apparatus comprising:  
a user interface including at least one input device adapted to receive inputs  
identifying at least one of users and their accounts, and at least one output device;  
at least one sheet handling mechanism, including:*

Haney et al. teaches (column 3, lines 40-45) an ATM machine having note handling. It is generally true that such ATMs have a user interface to receive the card, which identifies the user, and their account(s). The sheets referred to are the bills which are dispensed by the ATM.

*at least one picking member moveable in engagement with a first sheet  
bounding a stack of sheets, wherein movement of the at least one picking member  
in a picking direction urges the first sheet to move in a first direction from the stack,*

Haney teaches (column 25, lines 30-45; see especially figure 23):

**The note separating mechanism generally indicated 294** is positioned generally adjacent to the validator. The note separating mechanism is operative to **separate notes individually from a stack 296** and deliver the individual notes to the validator 290. A **note thickness sensor 298** is positioned adjacent to the unstack mechanism. The note thickness sensor 298 operates to sense if more than one note has been removed from the stack. In the event that more than one note is sensed as passing from the stack toward the validator, the controller is operative to cause the note separating mechanism 294 to reverse the movement of the note. The note is moved back into the stack and another attempt made until a single note is separated as sensed by the thickness sensors and delivered to the validator.

Here the note separating mechanism 294 is the picking member. As can be seen, this picking mechanism urges the first sheet of stack 296 in a leftward direction in the figure.

*at least one stripper member positioned generally opposed of the at least one picking member, wherein as the at least one picking member moves in the first direction the at least one stripper member generally acts on the first sheet to oppose movement of the first sheet in the first direction, and generally to prevent sheets other than the first sheet from moving in the first direction from the stack;*  
*at least one sensor disposed in the first direction of the at least one stripper member, wherein the at least one sensor is adapted to sense sheet thickness;*

*at least one drive in operative connection with at least one of the at least one picking member and the at least one stripper member;*

*at least one controller in operative connection with the at least one sensor and at least one drive;*

Viewing Haney et al. (column 25, lines 50-67 and figure 25) we find the teachings:

“A **contact stripper roll 306** and a pair of non-contact stripper rolls 308 are positioned in generally **opposed abutting arrangement** with feed rolls 300 and 302. Rolls 306 and 308 are connected on a common shaft to a one-way clutch 310. The one-way clutch is operative to resist rotation of rolls 306 and 308 in a direction which would facilitate the movement of sheets from the stack towards the validator. However the clutch 310 readily enables the rolls 306 and 308 to rotate in direction generally moving sheets away from the validator towards the stack. When the drive 304 moves rolls 300 and 302 to move a sheet at the bottom of the stack 296 towards the validator, both rolls 306 and 308 resist motion of the sheet. This generally prevents all but the first-sheet at the bottom of the stack from moving past the sensors 298 to the drive portion 288 adjacent the validator 290. **If however multiple sheets are sensed by the sensors 298** [which are the aforementioned thickness sensors] as being passed out of the stack, the controller operates to reverse the direction of drive 304. In this situation rolls 306, 308, 300 and

302 cooperate to readily help move the sheets back into the stack.”

*wherein, responsive to the at least one sensor sensing overlapping multiple sheets adjacent the at least one sensor, the at least one controller is operative to cause the at least one drive to move at least one of the at least one stripper member and the at least one picking member such that one of the multiple sheets engaged with the at least one stripper member is urged to move in a second direction opposed to the first direction, a distance greater than another sheet of the multiple sheets engaged with the at least one picking member is urged to move in the second direction.*

This movement of “one of the multiple sheets engaged with the at least one stripper member... in a second direction opposed to the first direction, a distance greater than another sheet” is not explicitly taught in Haney et al. In particular, Haney et al. operates to reverse the direction of the primary picker driver 304.

Graef et al. teaches (column 10, lines 10-45; figure 6):

“When documents are to be dispensed, roller 102 of picker mechanism 100 rotates in the direction of arrow C. U-shaped lever 120 is controlled by cam 114 and holds stack 30 away from roller 102 except at those times during rotation when the high friction portion 112 is in position to contact stack 30.

This rotational movement of roller 102 causes the first bill to be removed from

stack 30 by the grabbing action exerted by high friction portion 112. As a consequence, the first bill in stack 30 is pulled downwards into **stripper rolls 116 which are rotating in the same rotational direction as roller 102** [which means that at the point of tangency, the rollers are moving in opposite directions]. The action of **stripper rolls 116 insure that only one (1) bill at a time is removed from stack 30** and that **any additional bills are pushed or stripped backwards into the stack**. Further rotation of roller 102 causes the first bill to be pulled past stripper rolls 116 due to the frictional characteristics and large surface area of high friction portion 112. Once the first bill has been pulled off stack 30 and past stripper rolls 116, it is moved by transport means (not shown) to a location for delivery outside the ATM.”

In Graef, the stripper roller 116/118 moves in an opposing motion to the primary picking roller 106/112. Both rotate counterclockwise, and the stripper acts to pull any secondary sheet in an opposing direction to the picker member (i.e. toward the stack). If there are multiple sheets, as there are when Haney et al.’s thickness sensor is triggered, this would mean that at least one of the multiple sheets (one that is in contact with the stripper member) is pulled in a second direction opposite a first direction a distance greater than another sheet (one that is in contact with the primary picker member).

In view of Graef’s teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the old and well-known opposite motion between



Art Unit: 2876

the picker and the stripper because this has the effect of peeling off back extra bills, rather than sending all of the bills back to the stack when multiple bills are detected. This could result in faster picking of individual bills. Note that Haney already has stripper rollers available and positioned opposite picking members.

Re claim 2: At the point of tangency in figure 6 of Graef, if the two rollers are moving against each other (as per Haney et al./Graef et al.) and more than one bill is between them, a bill touching only the stripper 116 will move back toward the stack faster than a bill that is contact only with the picker 106/112.

Re claim 3: At the point of tangency in figure 6 of Graef, if the two rollers are moving against each other (as per Haney et al./Graef et al.) and more than one bill is between them, a bill touching only the stripper 116 will move back toward the stack for a longer period of time than a bill that is contact only with the picker 106/112.

Re claim 5: Strippers of both Haney and Graef are contact strippers.

Re claim 6: In Haney (column 25, line 53), stripper rolls 308 are non-contact.

Re claim 7: Haney has (see column 25) contact 306 and non-contact 308 stripper rolls.

Re claim 8: See discussion re claim 1 above.

Art Unit: 2876

Re claim 9: A “chute” is a broad term and can be used to describe the are of Haney which receives a stack loaded by an operator.

Re claim 10: Haney teaches (column 25, lines 30-45) a validator device adapted to determine as least one characteristic of validity.

Re claim 11: See Haney, column 4, lines 55-65:

“The controller is further operative responsive to insertion of a note or other sheet to the inlet opening to have the validator determine if the inserted note is valid. If so, the note is accepted by the receiving and dispensing mechanism and stored in the storage area.”

Here the storage area is the claimed chest.

Re claim 12: In Haney (column 24, lines 20-45) it is clear that there can in one embodiment be two possible storage areas, one for valid and the other for invalid notes:

“If the controller of the mechanism 238 is operating to sense notes being input into the machine and the sensors 246 operate to sense an invalid note, the transport 242 may be reversed immediately to reject the note.

Alternatively if it is not desired to reject the note through the exterior of the machine, the note may be moved by the transport 242 into the passage area

Art Unit: 2876

244. The note may also be moved partially onto the web 254 as is necessary in the operation of the machine. Thereafter, after the note has been moved to the storage area, the position of the gate 248 may be changed and the controller may operate a reject transport 256. The reject transport is operated to move the note inward to a storage area 258 inside the housing of the machine. As a result suspect notes are held within the housing of the machine until they can be removed by authorized personnel.”

Re claim 13: Haney has storage areas, as shown above. Whether they are L-shaped is not clear to the examiner. However, there is no reason for the examiner to believe that an L shape has special criticality. In figure 6 of the instant invention, it appears that the L-shape is what remains after a sheet acceptor mechanism 80 consumes part of the available housing area.

***Allowable Subject Matter***

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 17-34 are allowed.

Art Unit: 2876

Each of the above claims teaches or implies that upon sensing that multiple notes have been picked, the picking means (which is in contact with the first bill of the multiple bills) and the stripping means (which is in contact with another bill) *both* move back toward the stack, but that the stripping means moves faster so that the extra bills are pulled away from the primary bill even as all of the bills are moved back. (In the case of claim 4, forward movement of the picker stops, while waiting for the stripper to remove excess bills.)

This is embodied in the applicant's specification (paragraph 23):

“Alternatively, both the picking member and one or both stripping members may move the multiple overlapping sheets back toward the stack, **but with the stripping members moving so as to drive the overlying sheets at a faster rate, and thus a greater distance.** “

In Haney et al., excess thickness results in **all of the multiple bills** being equally returned to the receptacle, for another attempt, from the beginning.

In Graef et al., the picker does not move backward at all, and there is certainly no movement by the stripper at a *faster rate* as there is in the present invention. Instead the picker moves only forward and the stripper moves only backward.

Art Unit: 2876

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jantsch (US 2003/0089769) teaches double-bill detection in an ATM and discarding of extra bills. In Peters (US 2003/0046232) a stack whose thickness is too greater is diverted. Force et al. (US6,109,522) teaches many of the elements as Haney et al., above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel A. Hess whose telephone number is (571) 272-2392. The examiner can normally be reached on 8:00 AM - 5:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DH  
5/19/2005

**DANIEL STCYR  
PRIMARY EXAMINER**

